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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,609	11/29/2001	Takao Takiguchi	684.3318	2294

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EXAMINER

KIELIN, ERIK J

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 09/04/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,609

Applicant(s)

TAKIGUCHI ET AL.

Examiner

Erik Kielin

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 4-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7,9 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-3 in Paper No. 11 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statement filed 7 March 2002 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 17 (Fig 1C) and 24 (Fig. 2). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Specification*

5. The abstract is objected to for having greater than 150 words. Appropriate correction is required.

Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims.

*Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 1 uses phrasing such as “capable of including...methylene groups” and “capable of including...hydrogen groups” and “capable of having a substituent group.” This phrasing making the claim indefinite for failing to positively recite if the group is or is not present in the variations of the claimed compound. The phrasing, instead, should be positively recited, for example as, --R<sub>1</sub> and R<sub>2</sub> are one of the following...--

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2813

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application 2002/0034656 A1 (**Thompson et al.**) in view of the article **Newkome et al.**, "Synthesis and Characterization of Novel Palladium (II) Cyclometalated Complexes of 2-Vinylpyridine Derivatives" Organometallics Vol. 9, 1990, pp. 1375-1379.

Regarding claim 1, **Thompson** discloses a metal coordination compound, specifically the compound labeled "vinylpyridines," represented by the following formula indicated as (1), wherein M denotes Ir, Pt, Rh or Pd; n is 2 or 3; R<sub>1</sub> and R<sub>2</sub> independently denote a linear or branched alkyl group having 1-20 carbon atoms and capable of having a -CO-O- or -O-CO-; and CyN denotes a cyclic group containing nitrogen atom connected to M. (See Fig. 49; paragraphs [0048], [0049], [0052], and [0183].)

**Thompson** does not show an R<sub>1</sub> group in the  $\alpha$ -position of the vinyl substituent. However, it would be a matter of design choice to place a substituent in the  $\alpha$ -position because it would appear that the molecule gains its main coordination quality and photoluminescent quality because of the pyridine group. One of ordinary skill would be motivated to modify the molecule to have an alkyl group of 1-20 carbons in order to slightly modify the wavelength of emission of the compound.

Further in this regard, Applicant provided numerous examples in the instant specification (Table 1) which clearly shows that the R<sub>1</sub> group may be hydrogen, as shown in **Thompson**, suggesting the presence of an alkyl group in the  $\alpha$ -position is only a matter of design choice.

If it is thought that the R<sub>1</sub> group being an alkyl group of 1-20 carbons and capable of having a -CO-O- or -O-CO- is not a matter of design choice, then this may be a difference.

Art Unit: 2813

**Newkome** discloses a noble metal coordination compound of Pd which has at least one vinylpyridine ligand with the  $\alpha$ -position of both  $\alpha$ - and  $\beta$ -positions of the vinyl substituent substituted with alkyl  $R_1$  and  $R_2$  groups. (See Fig. 1 and structure (2), p. 1376, left-hand column.)

It would have been obvious for one of ordinary skill in the art, at the time of the invention to modify the compound of **Thompson** with an  $\alpha$ -position substituent on the vinyl group, as taught in **Newkome** in order to vary the wavelength of emission of the compound.

Regarding claim 2, as indicated above CyN is pyridine.

Regarding claim 3, **Thompson** specifically uses Ir and Pt as M, as noted in paragraph [0048], [0049], and [0052].

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 703-306-5980. The examiner can normally be reached on 9:00 - 19:30 on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached at 703-306-2417. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Erik Kielin

August 30, 2002